

Kentucky Board of Nursing
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RECOMMENDED COURSE CONTENT

INTRAVENOUS (IV) THERAPY FOR REGISTERED NURSES AND LICENSED PRACTICAL NURSES

PURPOSE

The Kentucky Board of Nursing (KBN) has developed recommended course content to be included in a basic intravenous (IV) therapy prelicensure or continuing education course for licensed practical nurses and registered nurses who wish to perform specified IV therapy procedures as defined in 201 KAR 20:490.

COURSE DESCRIPTION

An intravenous therapy course should be designed to provide fundamental knowledge, skills and abilities needed by Registered Nurses (RNs) and Licensed Practical Nurses (LPNs) to perform specified IV therapy procedures. Course content should include but not be limited to 1) legal scope of nursing practice for RNs and LPNs in IV Therapy; 2) needs of clients receiving IV therapy; 3) related anatomy and physiology including fluid and electrolytes balance; 4) principles and procedures for venipuncture and site maintenance; 5) principles of pharmacology as related to IV therapy; 6) principles and procedures for administration of specified solutions and medications via intravenous route; 7) principles of blood and blood products administration; 8) assessment of and appropriate interventions for complications related to IV therapy; and 9) demonstration and practice of specified IV therapy procedures.

COURSE OBJECTIVES

Upon completion of all instructional components of an IV Therapy course, the RN or LPN participant should demonstrate the ability to:

1. Discuss the legal implications of RN or LPN practice as related to the performance of IV therapy procedures.
 - A. Identify a minimum of two (2) legal considerations in each of the following regarding IV therapy and the scope of practice for the RN and LPN:
 1. Kentucky Nursing Laws
 2. Related Kentucky administrative regulations
 3. Related KBN advisory opinion statements
 4. National nursing standards of practice
 5. Health care facility policies, and
 6. Health care facility job descriptions

- B. Discuss the accountability and responsibility of the RN and LPN in the performance of specified IV therapy procedures.
 - C. State the limitations of practice for the LPN who has successfully completed a Kentucky Board of Nursing approved IV therapy course.
 - D. Identify the principles of quality control/assurance and risk management related to IV therapy practice.
2. Identify normal anatomy and physiology applicable to IV therapy practice.
- A. Describe the structure and function of the vascular system.
 - B. Describe the interrelatedness of the vascular system and other body systems in maintaining fluid equilibrium.
 - C. Discuss the distribution and physiologic balance of fluids and electrolytes in the body.
 - D. Identify the basic physiological principles applicable to the safe performance of IV therapy procedures.
 - E. Identify two (2) veins on the dorsal aspect of the hand and two (2) veins in the arm commonly used to administer IV fluids.
 - F. Differentiate between arteries and veins in each of the following: tissue layers, color of blood, pulsation, valves, location, tissues supplied, spasm of vessels, and blood flow.
3. Assist in the implementation of the nursing process in caring for clients receiving IV therapy.
- A. Discuss the role of the LPN and the RN in the management of care for a patient receiving IV therapy.
 - B. Discuss the nursing responsibilities in assisting the patient to maintain fluid and electrolyte balance.
 - C. Discuss nursing measures for patient's receiving IV therapy, which contribute to the nursing care plan.
 - D. Identify how each of the following affects vital sign measurement, i.e., heart rate/rhythm, respiratory rate, and blood pressure:
 - 1. Fluid retention/deficit
 - 2. Increased/decreased blood volume
 - 3. Vasodilatation/vasoconstriction
 - 4. Increased/decreased cardiac output
 - E. Describe the observable effects of isotonic, hypertonic, and hypotonic IV fluids on the body.
 - F. Observe and report adverse reactions related to IV therapy and initiate appropriate nursing intervention.
4. Initiate, maintain, monitor, and/or discontinue IV therapy as defined in the Kentucky Board Nursing advisory opinion statement.
- A. Accurately interpret medical orders for IV therapy.
 - B. Select appropriate sites and infusion devices for IV infusion administration.
 - C. Demonstrate assembling and setting up IV solutions with tubing and needles.
 - D. Correctly and aseptically start a peripheral IV infusion.
 - E. Given a prescribed quantity of fluid to be infused, calculate a flow rate correctly.

- F. Demonstrate appropriate use of selected IV equipment including: infusion pumps, mechanical controllers, and patient controlled administration systems.
 - G. Demonstrate both continuous and intermittent administration of IV fluids and/or medications.
 - H. Demonstrate accurate documentation of IV therapy.
 - I. Demonstrate IV therapy maintenance procedures, i.e., site care, dressing and tubing changes, flushing, conversion of primary line to intermittent access device, hanging replacement solutions and pre-mixed medications.
 - J. Discontinue IV infusion safely.
 - K. Identify local and systemic complications common to IV therapy and discuss appropriate nursing interventions.
 - L. Differentiate the role of the registered nurse and the role of the licensed practical nurse in the maintenance of central line infusion as defined in the Kentucky Board of Nursing advisory opinion statement.
5. Identify the drugs and solutions commonly used in IV therapy and discuss their action, therapeutic dosage, and adverse effects.
- A. Identify the principles of medication administration as related to premixed medication additives for IV therapy.
 - B. Identify the incompatibilities of selected drugs and fluids including blood and blood products.
 - C. Address the classifications of intravenous medications, including but not limited to, indications for use, pharmacological properties, contraindications, dosing, clinical mathematics, anticipated side effects, potential complications/antidotal therapy, compatibilities, stabilities, and any other specific special considerations.
 - D. Discuss the dosage, action, and adverse effects of the commonly used emergency IV medications.
 - E. Identify medications approved for IV push or bolus by the LPN and demonstrate proper technique for administration of these IV "push or bolus" medications.
 - F. Identify the principles related to the safe administration of blood and blood products.
 - G. Differentiate the role of the registered nurse and the licensed practical nurse in the peripheral administration of blood and blood products as defined in the Kentucky Board of Nursing advisory opinion statement.
 - H. Describe potential reaction to blood/blood products and related nursing interventions.
6. Maintain aseptic techniques and established infection control practices.
- A. Discuss universal infection control principles and practices as related to IV therapy.
 - B. Identify principles of quality control/assurance.
 - C. Demonstrate appropriate practice of medical asepsis when performing IV therapy procedures.

Approved: 8/89

Revised: 10/89; 12/89; 12/92; 10/93, 6/99; 6/05; 2/10